

Image may differ from product. See technical specification for details.

QJ 209 MA

Four-point contact ball bearing

Four-point contact ball bearings can accommodate high axial loads in both directions and small radial loads. They can operate at very high speeds and are more suitable than deep groove ball bearings for supporting large axial forces. The outer ring, with ball and cage assembly, can be mounted separately from the two inner ring halves.

- High-speed capability
- Accommodate high axial loads in both directions and small radial loads
- Require considerably less axial space than double row angular contact ball bearings

Overview

Dimensions

Bore diameter	45 mm
Outside diameter	85 mm
Width	19 mm
Contact angle	35 °

Performance

Basic dynamic load rating	63 kN
Basic static load rating	56 kN
Limiting speed	14 000 r/min
SKF performance class	SKF Explorer

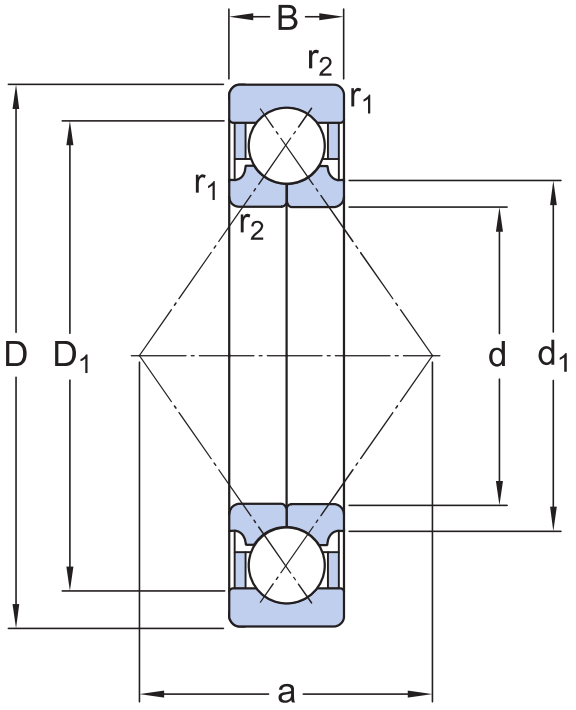
Properties

Contact type	Four-point contact
Number of rows	1
Locating feature, bearing outer ring	None
Ring type	Two-piece inner ring and one-piece outer ring
Cage	Machined metal
Matched arrangement	No
Universal matching bearing	No
Axial internal clearance	CN
Material, bearing	Bearing steel
Coating	Without
Sealing	Without
Lubricant	None
Relubrication feature	Without

Logistics

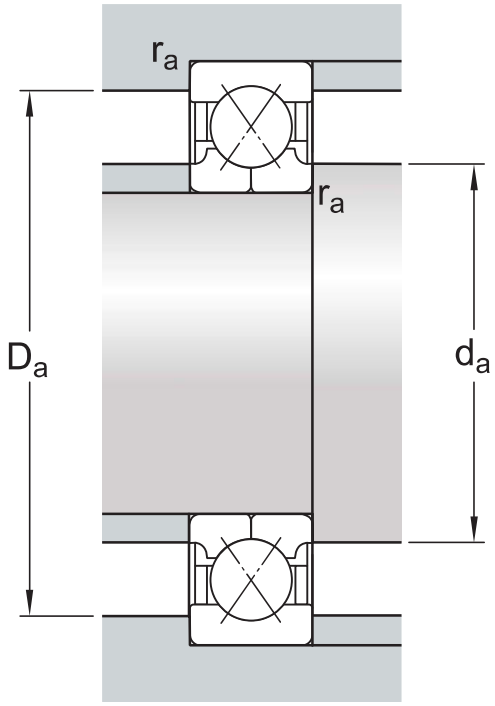
Product net weight	0.509 kg
eClass code	23-05-08-05
UNSPSC code	31171538

Technical specification



Dimensions

d	45 mm	Bore diameter
D	85 mm	Outside diameter
B	19 mm	Width
d_1	≈ 54.5 mm	Shoulder diameter inner ring
D_1	≈ 72 mm	Shoulder diameter outer ring/ inner diameter housing washer
a	46 mm	Distance pressure point(s)
$r_{1,2}$	min. 1.1 mm	Chamfer dimension inner ring



Abutment dimensions

d_a	min. 52 mm	Abutment diameter shaft
D_a	max. 78 mm	Abutment diameter housing
r_a	max. 1 mm	Fillet radius

Calculation data

SKF performance class		SKF Explorer
Basic dynamic load rating	C	63 kN
Basic static load rating	C_0	56 kN
Fatigue load limit	P_u	2.36 kN
Limiting speed		14 000 r/min
Calculation factor	A	0.00871
Limiting value	e	0.95
Calculation factor	X	0.6
Calculation factor	Y_0	0.58
Calculation factor	Y_1	0.66
Calculation factor	Y_2	1.07

Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P6
- Internal clearance: table

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit

More Information

Product details

- Designs and variants
- General bearing specifications
- Loads
- Temperature limits
- Permissible speed
- Design considerations
- Designation system

Engineering information

- General bearing knowledge
- Bearing selection process
- Bearing interfaces
- Seat tolerances for standard conditions
- Selecting internal clearance or preload
- Lubrication
- External sealing, mounting and dismounting
- Bearing failure and how to prevent it

Tools

- SKF Product select
- SimPro Quick
- Bearing Frequency Calculator
- LubeSelect for SKF greases
- Heater selection tool
- SKF mounting and dismounting instructions

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